

Election Observation Report

St. Lucie County, Florida

November 14 - 18, 2012



Rick Scott
Governor of Florida

Ken Detzner
Secretary of State

Florida Department of State
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Assignment and Scope

On November 13, 2012, in accordance with section 101.58, Florida Statutes, Florida Secretary of State, Ken Detzner appointed David R. Drury, Bureau Chief of the Bureau of Voting Systems Certification, Angie McPherson, Computer Audit Analyst, and Rose Cade, Regulatory Specialist, to observe the election process associated with the General Election that was held on November 6, 2012, in St Lucie County, Florida. This appointment was in response to early voting tabulation issues.

Summary

When the St. Lucie County Supervisor of Elections office began uploading its votes on the night of November 6, 2012, Election Day, the supervisor's office recognized a number of memory card issues had occurred during the early voting period from October 27, 2012, through November 3, 2012. Although the supervisor's office had prepared for a first time multi-card ballot election, the office did not anticipate the complexity of technical malfunctions nor have a well-defined contingency plan in the event of such issues occurring.

Despite well-intentioned efforts, staff inexperience, and inadequate procedures compounded issues, resulting in additional technical and procedural errors. Due to an increased concern about the accuracy of the early voting tabulations, Secretary Detzner assigned observers. These observers determined that there were at least four separate incidences of memory card failures, a number of ballot scanning errors during retabulation and an early voting recount, missing logs for ballot accounting, and incomplete official results. Recommendations have been made to address these findings in the hope that technical and procedural errors will be minimized in future elections.

Background

St. Lucie County has Dominion's Premier GEMS Voting System, Release 1.21.5, Version 2, which contains:

- Election management system (EMS):
 - GEMS 1.21.5
- Precinct count tabulator:
 - AccuVote OS, firmware 1.96.14
- Precinct ADA¹ capability:
 - AccuVote TSX, firmware 4.7.10
- Central count tabulator:
 - Premier Central Scan (PCS) application with Data Research and Solutions (DRS) PhotoScribe PS900, version 2.2.5 and Assure Security Manager, version 1.2.5.

¹ Americans with Disabilities Act

St. Lucie County General Election Observation

November 14 - 18, 2012

Page 3

The function of the GEMS (Global Election Management System) is to accumulate the tabulated results from early voting, absentee voting, election day voting, etc., and to produce the summary and precinct-level election results.

St. Lucie County had four early voting sites. There were 65 precincts. Precincts were numbered using numbers that fell within the range of 1-94.

Table 1: EV Site	Identified as:
Orange Blossom Business Center, Main Office, Fort Pierce	Orange-Main
Morningside Library	Morningside
Port St. Lucie Community Center	PSL-CC
Zora Neale Hurston Library	Zora

St. Lucie County uses the electronic poll book called Electronic Voter Identification (EViD) developed by VR Systems, Inc.

There were 175,554 registered voters in St. Lucie County for the November 6, 2012, General Election.

The election had a total of two ballot cards for each voter, identified as:

- Ballot card A, for office contests and Constitutional Amendments 1, 2, and 3.
- Ballot card B, for Constitutional Amendments 6, 8-12 and two local ad valorem referendums.

The county canvassing board consisted of:

- Tod Mowery, County Commissioner;
- Kathryn Nelson, County Judge; and
- Marc Traum, Chief Court Deputy Administrator*

*Pursuant to section 102.141, Florida Statutes, Mr. Traum was appointed as a substitute for the Supervisor of Elections, Gertrude Walker, who was an opposed candidate on the ballot.

The St. Lucie County Supervisor of Elections' office (Hereinafter St. Lucie County) installed two AccuVote OS tabulators at each of the four designated early voting sites. An additional tabulator was later added to the PSL-CC early voting site to address increased voter activity during the early voting days November 1-3, 2012. One tabulator was used for precincts 1-40 and the other tabulator for precincts 41-94.

Each AccuVote OS tabulator has one Epson style 128 Kb 40-pin memory card. This memory card has limited memory capacity. The memory card contains the election definition and counts the votes. The Epson style 40-pin memory card for the AccuVote OS tabulator has three generations. The 1st generation is known as the "black label." The 2nd generation is known as the "blue label" or the "green label." The 3rd generation is known as the "white label."

St. Lucie County acquired the blue label 2nd generation memory cards in 2008 to replace the black label 1st generation to reduce the risk of memory card failures encountered with the 1st

St. Lucie County General Election Observation

November 14 - 18, 2012

Page 4

generation card. The 1st and 2nd generation memory 128Kb SRAM² cards have internal batteries that need to be replaced before it is depleted. St. Lucie County replaced the batteries before the 2012 election cycle. The white label 3rd generation is a 128Kb MRAM³ memory card that does not have or need an internal battery to retain its data. The vendor *represents* that this type of memory card is more robust than the previous AccuVote OS cards. However, the vendor's 2nd and 3rd generation cards inventory was depleted during the 2012 election cycle. Only black label 1st generation re-furbished memory cards were available to St. Lucie County.

St. Lucie County used the blue label 2nd generation memory cards for the early voting period and Election Day. As will be discussed below under the header "The Memory Card Failures," blue label 2nd generation memory cards were also used for the recount of the City of Fort Pierce Mayoral contest.

In anticipation of an increased number of early voters and the memory cards' limitations, election staff designated two memory cards to cover the early voting period. One card was identified as Memory Card A for use on early voting days October 27-31, 2012, and the second card was identified as Memory Card B for use on early voting days November 1-3, 2012. A third memory card was identified as Memory Card C for use with the third tabulator at the PSL-CC early voting site for the early voting days November 1-3, 2012.

Table 2: AccuVote OS tabulators for each EV sites		
	Oct 27 to 31	Nov 1 to 3
Precincts 1 to 40	Memory card A	Memory card B
Precincts 41 to 94	Memory card A	Memory card B
		Memory card C (PSL-CC EV Site Only)

For the early voting re-tabulation, St. Lucie County had to use refurbished black label 1st generation memory cards. Forty of these memory cards were ordered on November 15th, 2012.

Findings

The observers made the following specific findings about St. Lucie County's 2012 General Elections:

A. Memory Card Failures

There were 4 separate incidences relating to memory card failures.

- **Episode 1:** Four memory cards used during the early voting days on November 1-3, 2012, failed due to incorrect card machine identification. These misidentified memory

² Static random-access memory

³ Magnetoresistive random-access memory

St. Lucie County General Election Observation

November 14 - 18, 2012

Page 5

cards were used for precincts 1-40 at early voting site, Zora, and for precincts 41-94 at PSL-CC, Orange-Main, and Zora early voting sites.

The A, B, and C labels serve as the memory card's machine identification. As part of the security procedure, only one machine identification of each named tabulator can be uploaded into the election management system (GEMS). County election staff did not know that four memory cards B had been misidentified as memory cards A. Therefore, even though the memory cards contained the recorded early voting results, the misidentified memory cards could not upload those results into GEMS. The table below shows how many ballots were affected for each early voting site:

Table 3: Misidentified Memory Cards			
	Nov 1 to 3		Affected Ballots
Precincts 1 to 40	Zora	misidentified memory card B as card A	366
Precincts 41 to 94	PSL-CC	misidentified memory card B as card A	6,337
	Main Orange	misidentified memory card B as card A	3,635
	Zora	misidentified memory card B as card A	362

To correct this misidentification, the election officials had to re-identify the memory cards and rescan the affected early voting ballots on Election Night.

- **Episode 2:** On Election Day, a memory card failed during the upload of early voting results into GEMS. It appeared that the AccuVote OS froze during the boot-up preventing a successful upload. This memory card (memory card B) failure affected 6,249 early voting ballots cast for precincts 41-94 at the Morningside early voting site during the early voting days November 1 and 2. To correct this upload failure, election officials had to rescan ballots using a replacement memory card. The rescan was done on Election Day.
- **Episode 3:** Another memory card failed during early voting on the third day of its use. This memory card (memory card B) had been used at the Orange-Main early voting site for the early days November 1 and 2. This failure occurred when the memory card was in a reformat process and the votes could not be retrieved. To correct this upload failure, election officials had to rescan ballots using a replacement memory card. The rescan was done on Election Day. However during the rescan, election staff only re-tabulated the early voting ballots cast on November 1, 2012, not those for November 2, 2012. This meant that 1,953 ballot cards were not rescanned (see further discussion under "Procedural Errors"). The early voting ballots cast on November 3, 2012, were captured on another memory card identified as memory card C and the results were successfully uploaded into GEMS.
- **Episode 4:** Two of the 40 refurbished black label 1st generation memory cards used for an early voting re-tabulation held on November 18, 2012, failed for indeterminable reasons. The vote count could not be retrieved. Because of the impending statutory deadline for reporting the official results to the Department of State, the elections staff

St. Lucie County General Election Observation

November 14 - 18, 2012

Page 6

attempted to perform a manual input of the affected votes into the GEMS software. However, that manual activity could not be completed before the noon deadline. Despite efforts to transmit what would have still been incomplete results, the transmission did not finish until after the noon deadline (November 18, 2012).

B. Procedural Errors

St. Lucie County election officials uploaded both early voting and absentee ballots into GEMS on Election Day. Unlike absentee ballot results, Florida counties can upload early voting results into their election management system at any time after early voting is closed, provided the results are not released to the public. It appears that the undue pressure of uploading early voting results on Election Day, rather than earlier as other counties did, compounded the impact of the memory card failures and resulted in additional procedural errors.

- 1. Double scanned ballots:** Election staff had installed an additional tabulator at PSL-CC early voting site in response to long lines for early voters in precincts 41-94. The memory card identified with this tabulator was Memory Card C. The Memory Card C was successfully uploaded into GEMS. However, staff committed an error by rescanning and uploading early voting results from this same memory card again on Election Night when dealing with other early voting ballots that had to be rescanned and results uploaded due to the failure mentioned under “Memory Card Failures”. Consequently, 3,635 ballot cards cast in precincts 41-94 at early voting site PLC-CC during November 1-3, 2012, were erroneously uploaded twice on Election Night.
- 2. Unrescanned ballots:** As noted in episode 3 under “Memory Card Failures”, elections staff failed to re-tabulate early voting ballots cast on November 2, 2012, for the Orange-Main early voting site. The staff was under pressure to meet preliminary Election Night results that were required to be reported to the State. Compounding the problem was staff’s inexperience with multi-ballot cards. Consequently, staff only rescanned parts of the early voting ballots. Realizing their error and the questionable early voting results, election officials rescanned early voting ballots for November 1-3, 2012, on Sunday, November 11, 2012, after the first unofficial results were due to the State.
- 3. Missed write-in ballots:** On November 15, 2012, the observers examined a portion of the Statement of Votes Cast (SOVC) report that was printed on November 12, 2012, and contained the contest for Representative in Congressional District 18 and Constitutional Amendment No. 4. Each voter was provided a ballot card A and ballot card B. The Congressional District 18 contest was on ballot card A, which also contained the Presidential contest. Amendment No. 4 was on ballot card B. This examination showed that the total ballot card A for early voting was 37,014 ballots, whereas ballot card B had 37,318 ballots. The total number of ballot card A should have equaled or been greater than the number of ballot card B, but the SOVC report had a difference of at least 304 ballots. The observers alerted the election officials as to this discrepancy and the possibility of missing ballots. The election officials subsequently determined that they

St. Lucie County General Election Observation

November 14 - 18, 2012

Page 7

had missed rescanning the write-ins that occurred on November 11, 2012, with a box of 306 ballots. These missing ballots were stored in a locked ballot storage area (this set of ballots were not re-tabulated on the second rescan held on November 11, 2012) within the Supervisor of Elections' office. This information was provided to the Canvassing Board and to the public on November 16, 2012 (Friday). The Canvassing Board decided to rescan early voting ballots on November 17, 2012 (Saturday), and November 18, 2012, (Sunday).

- 4. Missing primary evidence/early voting turnout:** The observers determined that some primary evidence was missing. By referring to the turnout on St. Lucie County Supervisor of Elections' website for early voting by location and date, the observers noted that eligible voters totaled 175,551, but the actual book closing number was 175,554. Based on the noted early voting turnout of 37,379, the observers examined the Electronic Voter iDentification (EViD) system's tapes. These tapes serve as primary evidence of the daily turnout in a particular polling location. The Orange-Main site was missing an EViD tape for November 2, 2012, and all EViD tapes for November 3, 2012, were missing from the PSL-CC site. Voter turnout is updated electronically via EViDs⁴ to the voter registration system.

Additionally, St. Lucie County misplaced an early voting daily "Accounting Log" for the PSL-CC early voting site for November 3, 2012. Attached to this log were the missing EViD tapes. With the available logs, the observers verified the AccuVote OS public count, although several account logs also contained human errors. This log is part of administrative procedures for ballot reconciliation. The log includes the daily public count, count of provisional voters, count of ballots with selected write-ins, number of un-read ballots, and daily turnout for each site.

Table 4: Accounting Logs with Errors		
Orange-Main	Nov 3	incorrect calculations
PSL-CC	Nov 1	an incorrect value
Zora	Oct 30	incorrect values
	Nov 3	incorrect values

Because of the missing tapes and accounting log issue, the observers could not conclusively verify the early voting turnout using the primary evidence.

C. Post-Election Day Activities

1. Partial Re-tabulation (rescan) for Nov. 11, 2012

Election officials conducted only a partial rescan of early voting ballots on November 11, 2012, (Sunday) after the election. The tabulation was only for the ballots cast on November 1-3, 2012.

⁴ Electronic Voting Identification System

St. Lucie County General Election Observation
November 14 - 18, 2012
Page 8

Due to the issues with rescanning on Election Night, the partial rescan compounded the issues with early voting results and uploads.

2. Re-tabulation (Rescan) for Nov. 17-18, 2012

The original partial rescan of early voting ballots occurred on Election Night and the second partial rescan of early voting ballots occurred on November 11, 2012 (Sunday). The rescans were only for the early voting ballots cast on November 1-3, 2012. Because of the problems with the rescan on Election Night along with the second partial rescan, there was concern about the early voting results. On November 16, 2012 (Friday), the Canvassing Board determined that all the early voting ballots needed to be re-tabulated. This re-tabulation occurred on November 17, 2012 (Saturday), and November 18, 2012 (Sunday).

The election officials set up the re-tabulation using 71 AccuVote OS tabulators that were identified by the appropriate precinct number plus two AccuVote OS tabulators for ballots with write-ins and provisional ballots. The memory cards were programmed as an early voting site, instead of being identified with a unique precinct.

The election officials first scanned ballot card A of a given precinct into the respective AccuVote OS identified for that precinct. The reason for rescanning ballot cards A into the appropriate "named" AccuVote OS was to make it easier to put the rescanned ballots back into storage boxes with the unique precinct identification to easily identify the ballots for use with the manual audit.

After completing that phase, the election officials allocated ballot card B precinct 1-40 group into any of the AccuVote OS that were identified with those precinct numbers. Likewise, election officials allocated ballot card B precinct 41-94 group into any of the AccuVote OS that were identified with any precinct number between 41-94. The amendment card (i.e., ballot card B) was only segregated into the two precinct groups, 1-40 and 41-94. Thus, the election official could put any ballot card B into any tabulator that is within the appropriate group. For example, a ballot card B that was identified as precinct 42 could be put into any tabulator that was identified with precinct group 41-94. As a result, the tabulator's public count during the rescan was not meant to be a count of the turnout that would occur during early voting and would not match with the SOVC precinct level turnout results.

3. Missing the Deadline of Official Results to Department of State - Nov. 18, 2012

On November 17, 2012 (Saturday), one rescanned memory card failed to upload. On November 18, 2012 (Sunday), another memory card failed. To correct these events, the election official needed to manually enter the data from the AccuVote OS results tapes into the GEMS election management system. However, a decision was made to first finish the upload of the remaining rescanned early voting memory cards before performing the manual entry of the data. The remaining memory cards' uploads did not finish until around 11:00 a.m. The procedure for performing the manual entry was new for St. Lucie County, who needed to discuss this activity with an experienced IT person from another county. Unfortunately, St. Lucie County could not finish the manual entry before noon and the results were incomplete. Nevertheless, St. Lucie

County tried to finish the upload of the incomplete results to the Department of State, but that transmission did not finish until after noon, the statutory deadline.

4. Ballot Segregation / Manual Audit – Nov. 17, 2012

On November 17, 2012, after the machine recount of the contest for the City of Fort Pierce Mayoral race, St. Lucie County segregated the ballots by precinct for ballot card A (contest ballot card). St. Lucie County decided to segregate ballot card B (amendment ballot card) into two groups—the first group with precincts 1-40 and the second group with precincts 41-94. This ballot segregation was in preparation for November 19, 2012 (Monday).

Recommendations

- Establish review procedures and methods for multi-card ballots by coordinating with a large county that has experience with multi-card ballot elections.
- Establish a method of checks and balances of multi-card ballots to ensure an accurate ballot count with accurate turnout by group (early voting, election day, absentee, etc.). This method includes reconciliation of each group's counted, spoiled, unread, and duplicated ballots.
- Establish and implement a contingency plan in the event of technical procedural errors, failures, or oversight. The office should develop macroscopic remedial steps.
- Ensure tight controls are exercised in managing multi-card ballots including a means to confirm all uploads are complete before combining the ballots into storage boxes.
- Enhance or develop procedures to identify the duties, responsibilities, and authorizations for ballot movement, storage, traceability, and chain of custody.
- Upload the early voting results data into the election management system (i.e., GEMS for St. Lucie County) software before Election Day. The early voting results may be transmitted to GEMS for compilation of the returns after completion of the early voting period, but obviously must not be released prior to the closing of the polls on Election Day. This will help to minimize undue pressure arising from other reporting requirements on Election Night. It will also provide additional lead time to address anomalies that may show up.
- The final recommendation is directed to Dominion Voting Systems, Inc. This vendor needs to address the continuing failures with the AccuVote OS memory card. In particular, Dominion needs to have a plan in place that will give the Division of Elections and its customers (Supervisors of Elections) confidence in the memory cards and to provide that plan to Division of Elections as soon as possible. The plan should address the root cause, corrective action and a backup plan if the correction continues to have failures.